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ART UNIT	PAPER NUMBER
2162	

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Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/826,161	ZENG ET AL.
	Examiner	Art Unit	
	JEAN B. FLEURANTIN	2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 April 2004*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-52* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-52* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date *8/4,1/6,5/6,8/6*.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

1.   This in response to the application filed on 04/15/04.

Claims 1-52 are presented for examination.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 08/30/04, 01/03/06, 05/03/06 and

08/10/06. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the

information disclosure statement is being considered by the examiner.

Drawings

The Drawings submitted 04/15/04 are acknowledged.

Objections

Minor informalities/Specification

Page 1, paragraph [0002], line 1, of the specification is objected to because of the missing of the

related U.S. Patent Application Number, and the specification should be amended to reflect the status of

all related application (i.e., abandoned or patented with patent number and date patented). Appropriate

correction is required.

Claim 1, line 3, is objected for reciting "the reference information being identified from one or

more sources of data independent of a data source" clarification is required.

Claim 2, line 2, is objected to because of the terms "and/or".

Claim 3, line 2, is objected to because of the terms "and/or".

Claim 4, line 2, is objected to because of the terms "and/or".

Claim 5, line 1, is objected to because of the terms "and/or".

Claim 6, line 2, is objected to because of the terms "and/or".

Claim 9, lines 2 and 4 consecutively, is objected to because of the terms "and/or".

Claim 16, line 2, is objected to because of the terms "and/or".

Claim 17, line 2, is objected to because of the terms "and/or".

Claim 18, line 2, is objected to because of the terms "and/or".

Claim 20, line 2, is objected to because of the terms "and/or".

Claim 23, lines 2 and 5 consecutively, is objected to because of the terms "and/or".

Claim 30, line 2, is objected to because of the terms "and/or".

Claim 31, line 2, is objected to because of the terms "and/or".

Claim 32, line 2, is objected to because of the terms "and/or".

Claim 33, line 2, is objected to because of the terms "and/or".

Claim 34, line 2, is objected to because of the terms "and/or".

Claim 37, lines 2 and 4 consecutively, is objected to because of the terms "and/or".

Claim 44, line 2, is objected to because of the terms "and/or".

Claim 45, line 2, is objected to because of the terms "and/or".

Claim 46, line 2, is objected to because of the terms "and/or".

Claim 48, lines 2 and 4 consecutively, is objected to because of the terms "and/or".

The Examiner suggests the applicant to amend the claims in order to be specific.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As set forth in MPEP 2106:

Products may be either machines, manufactures, or compositions of matter.

A *machine* is "a concrete thing, consisting of parts or of certain devices and combinations of devices." *Burr v. Duryee*, 68 U.S. (1 Wall.) 531, 570 (1863).

As per claim 1,

Claim 1, in view of the above cited MPEP section is not statutory, because "a method providing computer-implemented content propagation for enhanced document retrieval, the method comprising: identifying reference information directed to one or more documents, the reference information being identified from one or more sources of data independent of a data source comprising the one or more documents; extracting metadata that is proximally located to the reference information; calculating relevance between respective features of the metadata to content of associated ones of the one or more documents; for each document of the one or more documents, indexing associated portions of the metadata with the relevance of features from the respective portions into original content of the document; and wherein the indexing generates one or more enhanced documents" does not produce any useful and tangible result.

As per claim 15,

Claim 15, in view of the above cited MPEP section is not statutory, because "a computer-readable medium comprising computer-executable instructions providing content propagation for enhanced document retrieval, the computer-executable instructions comprising instructions for: identifying reference information directed to one or more documents, the reference information being identified from one or more sources of data independent of a data source comprising the one or more documents; extracting metadata that is proximally located to the reference information; calculating relevance between respective features of the metadata to content of associated ones of the one or more documents; for each document of the one or more documents, indexing associated portions of the metadata with the relevance of features from the respective portions into original content of the document; and wherein the indexing generates one or more enhanced documents" does not produce any useful and tangible result.

As per claim 29,

Claim 29, in view of the above cited MPEP section is not statutory, because "a computing device providing content propagation for enhanced document retrieval, the computing device comprising: a processor; and a memory coupled to the processor, the memory comprising computer-program instructions executable by the processor for: identifying reference information directed to one or more documents, the reference information being identified from one or more sources of data independent of a data source comprising the one or more documents; extracting metadata that is proximally located to the reference information; calculating relevance between respective

features of the metadata to content of associated ones of the one or more documents; for each document of the one or more documents, indexing associated portions of the metadata with the relevance of features from the respective portions into original content of the document; and <u>wherein the indexing generates one or more enhanced documents</u>" does not produce any useful and tangible result.

As per claim 43,

Claim 43, in view of the above cited MPEP section is not statutory, because "a computing device providing content propagation for enhanced document retrieval, the computing device comprising: identifying means to identify reference information directed to one or more documents, the reference information being identified from one or more sources of data independent of a data source comprising the one or more documents; extracting means to extract metadata that is proximally located to the reference information; calculating means to calculate relevance between respective features of the metadata to content of associated ones of the one or more documents; for each document of the one or more documents, indexing means to index associated portions of the metadata with the relevance of features from the respective portions into original content of the document; and <u>wherein the indexing generates one or more enhanced documents</u>" does not produce any useful and tangible result.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over "Image retrieval by hypertext links" issued to Hamandas et al., ("Harmandas") in view of WO 97/49048 issued to LI, Yanhong, both submitted by the Applicant(s), ("Yanhong").

As per claim 1, Harmandas discloses "a method providing computer-implemented content propagation for enhanced document retrieval" (i.e., retrieval system; see page 297, col. 2, paragraph [2.2], lines 16-18), the method comprising:

"identifying reference information directed to one or more documents, the reference information being identified from one or more sources of data independent of a data source comprising the one or more documents" (i.e., identifying documents in the collections and their links; see page 297, col. 2, paragraph [2.2], lines 27-28);

"extracting metadata that is proximally located to the reference information" (i.e., queries all relevant images were retrieved near top document ranking; see page 301, col. 2, paragraph [3.3.3], lines 12-14);

"calculating relevance between respective content of associated ones of the one or more documents" (i.e., statistic based on all possible combinations of weights; see page 301, col. 1, the entire paragraph [3.3.2] and Figs. 8 and 9), further, in page 301, col. 2, paragraph [3.3.3], lines 12-17, Hamandas discloses it was found that many of the queries all relevant images were retrieved near to the top of the document ranking (i.e., relevance of feature from respective portion of document representation of each document based on document citing and cited by it; page 296, col. 2, last paragraph);

and "wherein the indexing generates one or more enhanced documents" (i.e., images being indexing; see page 298, col. 2, paragraph [2.2.1], lines 12-19 and Fig. 3).

Harmandas fails to explicitly disclose each document of the one or more documents, indexing associated portions of the metadata. However, Yanhong discloses each document of one or more documents, indexing associated portions of metadata with the relevance of features from the respective portions into original content of the document (see Yanhong page 11, line 14 to page 12, line 8). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the method of Harmandas by each document of the one or more documents, indexing associated portions of the metadata with the relevance of features from the respective portions into original content of the document as disclosed by Yanhong (see Yanhong Fig. 4). Such a modification would allow the method of Harmandas to provide a unique and non-sequential method of accessing information using nodes and links, thereby allowing the non-linear organization of text on the web (see Yanhong page 1, lines 7-14), therefore, improving the accuracy of the content propagation for enhanced document retrieval.

As per claim 2, Hamandas discloses "the reference information comprises a link and/or substantially unique document ID associated with a document of the one or more documents" (i.e., links in a hypermedia document; see page 297, col. 1, lines 11-12).

As per claim 3, Hamandas discloses "the one or more documents are knowledge base article(s), product help, task, and/or developer data" (i.e., images in a page are semantically related to the textual content; see page 298, col. 2, paragraph [2.2.2], lines 1-2).

As per claim 4, Hamandas discloses "the one or more sources of data comprise service request(s), newsgroup posting(s), and/or search query log(s)" (i.e., queries collections; see page 301, col. 2, paragraph [3.3.3], lines 12-14).

As per claim 5, Hamandas discloses "metadata is semantically and/or contextually related to associated ones of the one or more documents" (i.e., links in a hypermedia document share properties, relationships; see page 297, col. 1, lines 11-14).

As per claim 6, Hamandas discloses "the metadata comprises a title of a document, product problem context, and/or product problem resolution information" (In light the specification at [0032], the purposed of product problem resolution information is for formulating search query. The method for collecting search query is disclosed by Hamandas see page 300, col. 1, paragraph [3.2] up to col. 2, line 1).

As per claim 7, Hamandas discloses "for each enhanced document of the one or more enhanced documents, there is a corresponding original document from which the enhanced document was generated" (In light the specification at [0032], the purposed of enhancing document is for ranking relevances. The method of ranking is disclosed by Hamandas page 299, col. 1, first paragraph).

As per claim 8, Hamandas discloses "calculating the relevance is based on how many times a particular document of the one or more documents is identified within its context in the metadata" (i.e., statistic based on all possible combinations of weights; see page 301, col. 1, the entire paragraph [3.3.2] and Figs. 8 and 9).

As per claim 9, Hamandas discloses "the metadata comprises article title(s), product problem context, and/or product problem resolution information" (In light the specification at [0032], the purposed of product problem resolution information is for formulating search query. The method for collecting search query is disclosed by Hamandas see page 300, col. 1, paragraph [3.2] up to col. 2, line 1), and "wherein calculating relevance further comprises weighting the article title(s) and/or product problem context to indicate a greater relevance than any product problem resolution information" (i.e., statistic based on all possible combinations of weights; see page 301, col. 1, the entire paragraph [3.3.2] and Figs. 8 and 9).

As per claim 10, Hamandas discloses "calculating relevance further comprises assigning greater relevance to feature(s) of the metadata that occur in content of the data source with greater frequency as compared to the frequency of occurrence of other metadata features in the content" (In light the specification at [0039], the purposed of calculating relevance is for assigning weight, ranking to determine frequencies. The method of using statistic based on all possible combinations of weights is disclosed by Hamandas page 301, col. 1, the entire paragraph [3.3.2] and Figs. 8 and 9).

As per claim 11, Hamandas discloses "calculating relevance further comprises assigning greater weight to feature(s) of the metadata found in a document of the one or more documents as a function of an age of the document" (i.e., statistic based on all possible combinations of weights; see page 301, col. 1, the entire paragraph [3.3.2] and Figs. 8 and 9).

As per claim 12, in addition to claims 1 and 4, Hamandas further discloses "identifying search queries from the search query log, wherein the search queries have a relatively high frequency of occurrence (FOO) to search the data source" (In light the specification at [0039], the purposed of calculating relevance is for assigning weight, ranking to determine frequencies. The method of using statistic based on all possible combinations of weights is disclosed by Hamandas page 301, col. 1, the entire paragraph [3.3.2] and Figs. 8 and 9);

"determining article(s) selected by an end-user from search query results, the article(s) being from the data source" (i.e., queries all images relevant to each query; see page 300, col. 1, paragraph [3.2], lines 1-3); and

"determining missing end-user selection(s), where a missing end-user selection is an article in the search query results that was not selected" (i.e., user's search; page 298, col. 2, last paragraph, lines 4-7).

As per claim 13, Hamandas further discloses "determining missing end-user selection(s) further comprises clustering heterogeneous objects using inter-layer links to determine importance measurements for features of the heterogeneous object to determine importance measurements of features for features of the heterogeneous objects" (In light the specification at [0087], the purposed of clustering heterogeneous object is for using inter-layer links. The method of clustering textual and non-textual nodes linked is disclosed by Hamandas page 296, col. 1, paragraph [2.1] and Fig. 1), "the heterogeneous object comprising a first cluster of similar queries and a second cluster of related documents" (In light the specification at [0068], the purposed of clustering is for identifying similarities queries. The method of classifying similar relevant images (documents) in pages, in which relevance assessment on the images in relation to the categories is disclosed by Hamandas page 300, col. 2, paragraph [3.2.1]), "the similar queries having been identified in the search query log, the similar queries being associated search result(s) comprising the one or more documents" (i.e., collecting queries and the identification of all images relevant to each query; page 300, col. 1, paragraph [3.2), "the related documents being identified in the search result(s) independent of whether individual ones of the related

documents were selected by an end-user from the search results" (i.e., retrieving documents with their corresponding nodes and presenting them to user; see page 297, col. 2, paragraph [2.2], lines 16-18).

As per claim 14, Hamandas further discloses "the features are represented with respective nodes in the first and second clusters, and wherein the importance measurement(s) for each of the nodes is based on a similarity function that measures a distance between objects in the first and second clusters" (i.e., textual nodes linked to form a cluster; see page 296, col. 1, paragraph [2.1] to col. 2, line 3 and Fig. 1).

As per claim 15, Hamandas discloses "a computer readable medium comprising computer-executable instructions providing propagation for enhanced document retrieval" (i.e., retrieval system; see page 297, col. 2, paragraph [2.2], lines 16-18), the computer executable instructions comprising instructions for:

"identifying reference information directed to one or more documents, the reference information being identified from one or more sources of data independent of a data source comprising the one or more documents" (i.e., identifying documents in the collections and their links; see page 297, col. 2, paragraph [2.2], lines 27-28);

"extracting metadata that is proximally located to the reference information" (i.e., queries all relevant images were retrieved near top document ranking; see page 301, col. 2, paragraph [3.3.3], lines 12-14);

"calculating relevance between respective content of associated ones of the one or more documents" (i.e., statistic based on all possible combinations of weights; see page 301, col. 1, the entire paragraph [3.3.2] and Figs. 8 and 9), further, in page 301, col. 2, paragraph [3.3.3], lines 12-17, Hamandas discloses it was found that many of the queries all relevant images were retrieved near to the top of the document ranking (i.e., relevance of feature from respective portion of document representation of each document based on document citing and cited by it; page 296, col. 2, last paragraph);

and "wherein the indexing generates one or more enhanced documents" (i.e., images being indexing; see page 298, col. 2, paragraph [2.2.1], lines 12-19 and Fig. 3).

Harmandas fails to explicitly disclose each document of the one or more documents, indexing associated portions of the metadata. However, Yanhong discloses each document of one or more documents, indexing associated portions of metadata with the relevance of features from the respective portions into original content of the document (see Yanhong page 11, line 14 to page 12, line 8). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the method of Harmandas by each document of the one or more documents, indexing associated portions of the metadata with the relevance of features from the respective portions into original content of the document as disclosed by Yanhong (see Yanhong Fig. 4). Such a modification would allow the method of Harmandas to provide a unique and non-sequential method of accessing information using nodes and links, thereby allowing the non-linear organization of text on the web (see Yanhong page 1, lines 7-14), therefore, improving the accuracy of the content propagation for enhanced document retrieval.

As per claim 16, Hamandas discloses "the reference information comprises a link and/or substantially unique document ID associated with a document of the one or more documents" (i.e., links in a hypermedia document; see page 297, col. 1, lines 11-12).

As per claim 17, Hamandas discloses "the one or more documents are knowledge base article(s), product help, task, and/or developer data" (i.e., images in a page are semantically related to the textual content; see page 298, col. 2, paragraph [2.2.2], lines 1-2).

As per claim 18, Hamandas discloses "the one or more sources of data comprise service request(s), newsgroup posting(s), and/or search query log(s)" (i.e., queries collections; see page 301, col. 2, paragraph [3.3.3], lines 12-14).

As per claim 19, Hamandas discloses "metadata is semantically and/or contextually related to associated ones of the one or more documents" (i.e., links in a hypermedia document share properties, relationships; see page 297, col. 1, lines 11-14).

As per claim 20, Hamandas discloses "the metadata comprises a title of a document, product problem context, and/or product problem resolution information" (In light the specification at [0032], the purposed of product problem resolution information is for formulating search query. The method for collecting search query is disclosed by Hamandas see page 300, col. 1, paragraph [3.2] up to col. 2, line 1).

As per claim 21, Hamandas discloses "for each enhanced document of the one or more enhanced documents, there is a corresponding original document from which the enhanced document was generated" (In light the specification at [0032], the purposed of enhancing document is for ranking relevances. The method of ranking is disclosed by Hamandas page 299, col. 1, first paragraph).

As per claim 22, Hamandas discloses "calculating the relevance is based on how many times a particular document of the one or more documents is identified within its context in the metadata" (i.e., statistic based on all possible combinations of weights; see page 301, col. 1, the entire paragraph [3.3.2] and Figs. 8 and 9).

As per claim 23, Hamandas discloses "the metadata comprises article title(s), product problem context, and/or product problem resolution information" (In light the specification at [0032], the purposed of product problem resolution information is for formulating search query. The method for collecting search query is disclosed by Hamandas see page 300, col. 1, paragraph [3.2] up to col. 2, line 1), and "wherein calculating relevance further comprises weighting the article title(s) and/or product problem context to indicate a greater relevance than any product problem resolution information" (i.e., statistic

based on all possible combinations of weights; see page 301, col. 1, the entire paragraph [3.3.2] and

Figs. 8 and 9).

As per claim 24, Hamandas discloses "calculating relevance further comprises assigning greater

relevance to feature(s) of the metadata that occur in content of the data source with greater frequency as

compared to the frequency of occurrence of other metadata features in the content" (In light the

specification at [0039], the purposed of calculating relevance is for assigning weight, ranking to determine

frequencies. The method of using statistic based on all possible combinations of weights is disclosed by

Hamandas page 301, col. 1, the entire paragraph [3.3.2] and Figs. 8 and 9).

As per claim 25, Hamandas discloses "calculating relevance further comprises assigning greater

weight to feature(s) of the metadata found in a document of the one or more documents as a function of

an age of the document" (i.e., statistic based on all possible combinations of weights; see page 301, col.

1, the entire paragraph [3.3.2] and Figs. 8 and 9).

As per claim 26, in addition to claims 1 and 4, Hamandas further discloses "identifying search

queries from the search query log, wherein the search queries have a relatively high frequency of

occurrence (FOO) to search the data source" (In light the specification at [0039], the purposed of

calculating relevance is for assigning weight, ranking to determine frequencies. The method of using

statistic based on all possible combinations of weights is disclosed by Hamandas page 301, col. 1, the

entire paragraph [3.3.2] and Figs. 8 and 9);

"determining article(s) selected by an end-user from search query results, the article(s) being

from the data source" (i.e., queries all images relevant to each query; see page 300, col. 1, paragraph

[3.2], lines 1-3); and

"determining missing end-user selection(s), where a missing end-user selection is an article in the

search query results that was not selected" (i.e., user's search; page 298, col. 2, last paragraph, lines 4-

7).

As per claim 27, Hamandas further discloses "the instructions for determining missing end-user selection(s) further comprises clustering heterogeneous objects using inter-layer links to determine importance measurements for features of the heterogeneous object to determine importance measurements of features for features of the heterogeneous objects" (In light the specification at [0087], the purposed of clustering heterogeneous object is for using inter-layer links. The method of clustering textual and non-textual nodes linked is disclosed by Hamandas page 296, col. 1, paragraph [2.1] and Fig. 1), "the heterogeneous object comprising a first cluster of similar queries and a second cluster of related documents" (In light the specification at [0068], the purposed of clustering is for identifying similarities queries. The method of classifying similar relevant images (documents) in pages, in which relevance assessment on the images in relation to the categories is disclosed by Hamandas page 300, col. 2, paragraph [3.2.1]), "the similar queries having been identified in the search query log, the similar queries being associated search result(s) comprising the one or more documents" (i.e., collecting queries and the identification of all images relevant to each query; page 300, col. 1, paragraph [3.2), "the related documents being identified in the search result(s) independent of whether individual ones of the related documents were selected by an end-user from the search results" (i.e., retrieving documents with their corresponding nodes and presenting them to user; see page 297, col. 2, paragraph [2.2], lines 16-18).

As per claim 29, Hamandas discloses "a computing device providing content propagation for enhanced document retrieval" (i.e., retrieval system; see page 297, col. 2, paragraph [2.2], lines 16-18), the computing device comprising:

"a processor" (i.e., a network, multiple nodes; see Fig. 2);

"a memory coupled to the processor, the memory comprising computer program instructions executable by the processor" (i.e., a network, textual and non textual interconnecting nodes; adapting to any application; see page 297, col. 2, paragraph [2.2] up to line 28 and Fig. 2) for:

"identifying reference information directed to one or more documents, the reference information being identified from one or more sources of data independent of a data source comprising the one or

more documents" (i.e., identifying documents in the collections and their links; see page 297, col. 2, paragraph [2.2], lines 27-28);

"extracting metadata that is proximally located to the reference information" (i.e., queries all relevant images were retrieved near top document ranking; see page 301, col. 2, paragraph [3.3.3], lines 12-14);

"calculating relevance between respective content of associated ones of the one or more documents" (i.e., statistic based on all possible combinations of weights; see page 301, col. 1, the entire paragraph [3.3.2] and Figs. 8 and 9), further, in page 301, col. 2, paragraph [3.3.3], lines 12-17, Hamandas discloses it was found that many of the queries all relevant images were retrieved near to the top of the document ranking (i.e., relevance of feature from respective portion of document representation of each document based on document citing and cited by it; page 296, col. 2, last paragraph);

and "wherein the indexing generates one or more enhanced documents" (i.e., images being indexing; see page 298, col. 2, paragraph [2.2.1], lines 12-19 and Fig. 3).

Harmandas fails to explicitly disclose each document of the one or more documents, indexing associated portions of the metadata. However, Yanhong discloses each document of one or more documents, indexing associated portions of metadata with the relevance of features from the respective portions into original content of the document (see Yanhong page 11, line 14 to page 12, line 8). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the method of Harmandas by each document of the one or more documents, indexing associated portions of the metadata with the relevance of features from the respective portions into original content of the document as disclosed by Yanhong (see Yanhong Fig. 4). Such a modification would allow the method of Harmandas to provide a unique and non-sequential method of accessing information using nodes and links, thereby allowing the non-linear organization of text on the web (see Yanhong page 1, lines 7-14), therefore, improving the accuracy of the content propagation for enhanced document retrieval.

As per claim 30, Hamandas discloses "the reference information comprises a link and/or substantially unique document ID associated with a document of the one or more documents" (i.e., links in a hypermedia document; see page 297, col. 1, lines 11-12).

As per claim 31, Hamandas discloses "the one or more documents are knowledge base article(s), product help, task, and/or developer data" (i.e., images in a page are semantically related to the textual content; see page 298, col. 2, paragraph [2.2.2], lines 1-2).

As per claim 32, Hamandas discloses "the one or more sources of data comprise service request(s), newsgroup posting(s), and/or search query log(s)" (i.e., queries collections; see page 301, col. 2, paragraph [3.3.3], lines 12-14).

As per claim 33, Hamandas discloses "metadata is semantically and/or contextually related to associated ones of the one or more documents" (i.e., links in a hypermedia document share properties, relationships; see page 297, col. 1, lines 11-14).

As per claim 34, Hamandas discloses "the metadata comprises a title of a document, product problem context, and/or product problem resolution information" (In light the specification at [0032], the purposed of product problem resolution information is for formulating search query. The method for collecting search query is disclosed by Hamandas see page 300, col. 1, paragraph [3.2] up to col. 2, line 1).

As per claim 35, Hamandas discloses "for each enhanced document of the one or more enhanced documents, there is a corresponding original document from which the enhanced document was generated" (In light the specification at [0032], the purposed of enhancing document is for ranking relevances. The method of ranking is disclosed by Hamandas page 299, col. 1, first paragraph).

As per claim 36, Hamandas discloses "calculating the relevance is based on how many times a particular document of the one or more documents is identified within its context in the metadata" (i.e., statistic based on all possible combinations of weights; see page 301, col. 1, the entire paragraph [3.3.2] and Figs. 8 and 9).

As per claim 37, Hamandas discloses "the metadata comprises article title(s), product problem context, and/or product problem resolution information" (In light the specification at [0032], the purposed of product problem resolution information is for formulating search query. The method for collecting search query is disclosed by Hamandas see page 300, col. 1, paragraph [3.2] up to col. 2, line 1), and "wherein calculating relevance further comprises weighting the article title(s) and/or product problem context to indicate a greater relevance than any product problem resolution information" (i.e., statistic based on all possible combinations of weights; see page 301, col. 1, the entire paragraph [3.3.2] and Figs. 8 and 9).

As per claim 38, Hamandas discloses "calculating relevance further comprises assigning greater relevance to feature(s) of the metadata that occur in content of the data source with greater frequency as compared to the frequency of occurrence of other metadata features in the content" (In light the specification at [0039], the purposed of calculating relevance is for assigning weight, ranking to determine frequencies. The method of using statistic based on all possible combinations of weights is disclosed by Hamandas page 301, col. 1, the entire paragraph [3.3.2] and Figs. 8 and 9).

As per claim 39, Hamandas discloses "calculating relevance further comprises assigning greater weight to feature(s) of the metadata found in a document of the one or more documents as a function of an age of the document" (i.e., statistic based on all possible combinations of weights; see page 301, col. 1, the entire paragraph [3.3.2] and Figs. 8 and 9).

As per claim 40, in addition to claims 1 and 4, Hamandas further discloses "identifying search queries from the search query log, wherein the search queries have a relatively high frequency of

occurrence (FOO) to search the data source" (In light the specification at [0039], the purposed of calculating relevance is for assigning weight, ranking to determine frequencies. The method of using statistic based on all possible combinations of weights is disclosed by Hamandas page 301, col. 1, the entire paragraph [3.3.2] and Figs. 8 and 9); .

"determining article(s) selected by an end-user from search query results, the article(s) being from the data source" (i.e., queries all images relevant to each query; see page 300, col. 1, paragraph [3.2], lines 1-3); and

"determining missing end-user selection(s), where a missing end-user selection is an article in the search query results that was not selected" (i.e., user's search; page 298, col. 2, last paragraph, lines 4-7).

As per claim 41, Hamandas further discloses "the instructions for determining missing end-user selection(s) further comprises clustering heterogeneous objects using inter-layer links to determine importance measurements for features of the heterogeneous object to determine importance measurements of features for features of the heterogeneous objects" (In light the specification at [0087], the purposed of clustering heterogeneous object is for using inter-layer links. The method of clustering textual and non-textual nodes linked is disclosed by Hamandas page 296, col. 1, paragraph [2.1] and Fig. 1), "the heterogeneous object comprising a first cluster of similar queries and a second cluster of related documents" (In light the specification at [0068], the purposed of clustering is for identifying similarities queries. The method of classifying similar relevant images (documents) in pages, in which relevance assessment on the images in relation to the categories is disclosed by Hamandas page 300, col. 2, paragraph [3.2.1]), "the similar queries having been identified in the search query log, the similar queries being associated search result(s) comprising the one or more documents" (i.e., collecting queries and the identification of all images relevant to each query; page 300, col. 1, paragraph [3.2], "the related documents being identified in the search result(s) independent of whether individual ones of the related documents were selected by an end-user from the search results" (i.e., retrieving documents with their corresponding nodes and presenting them to user; see page 297, col. 2, paragraph [2.2], lines 16-18).

As per claim 43, Hamandas discloses "a computing device providing content propagation for enhanced document retrieval" (i.e., retrieval system; see page 297, col. 2, paragraph [2.2], lines 16-18), the computing device comprising:

"identifying reference information directed to one or more documents, the reference information being identified from one or more sources of data independent of a data source comprising the one or more documents" (i.e., identifying documents in the collections and their links; see page 297, col. 2, paragraph [2.2], lines 27-28);

"extracting metadata that is proximally located to the reference information" (i.e., queries all relevant images were retrieved near top document ranking; see page 301, col. 2, paragraph [3.3.3], lines 12-14);

"calculating relevance between respective content of associated ones of the one or more documents" (i.e., statistic based on all possible combinations of weights; see page 301, col. 1, the entire paragraph [3.3.2] and Figs. 8 and 9), further, in page 301, col. 2, paragraph [3.3.3], lines 12-17, Hamandas discloses it was found that many of the queries all relevant images were retrieved near to the top of the document ranking (i.e., relevance of feature from respective portion of document representation of each document based on document citing and cited by it; page 296, col. 2, last paragraph);

and "wherein the indexing generates one or more enhanced documents" (i.e., images being indexing; see page 298, col. 2, paragraph [2.2.1], lines 12-19 and Fig. 3).

Harmandas fails to explicitly disclose each document of the one or more documents, indexing associated portions of the metadata. However, Yanhong discloses each document of one or more documents, indexing associated portions of metadata with the relevance of features from the respective portions into original content of the document (see Yanhong page 11, line 14 to page 12, line 8). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the method of Harmandas by each document of the one or more documents, indexing associated portions of the metadata with the relevance of features from the respective portions into original content of the document as disclosed by Yanhong (see Yanhong Fig. 4). Such a modification would allow the method of Harmandas to provide a unique and non-sequential method of accessing information using nodes and

links, thereby allowing the non-linear organization of text on the web (see Yanhong page 1, lines 7-14), therefore, improving the accuracy of the content propagation for enhanced document retrieval.

As per claim 44, Hamandas discloses "the reference information comprises a link and/or substantially unique document ID associated with a document of the one or more documents" (i.e., links in a hypermedia document; see page 297, col. 1, lines 11-12).

As per claim 45, Hamandas discloses "the one or more documents are knowledge base article(s), product help, task, and/or developer data" (i.e., images in a page are semantically related to the textual content; see page 298, col. 2, paragraph [2.2.2], lines 1-2).

As per claim 46, Hamandas discloses "the one or more sources of data comprise service request(s), newsgroup posting(s), and/or search query log(s)" (i.e., queries collections; see page 301, col. 2, paragraph [3.3.3], lines 12-14).

As per claim 47, Hamandas discloses "metadata is semantically and/or contextually related to associated ones of the one or more documents" (i.e., links in a hypermedia document share properties, relationships; see page 297, col. 1, lines 11-14).

As per claim 48, Hamandas discloses "the metadata comprises article title(s), product problem context, and/or product problem resolution information" (In light the specification at [0032], the purposed of product problem resolution information is for formulating search query. The method for collecting search query is disclosed by Hamandas see page 300, col. 1, paragraph [3.2] up to col. 2, line 1), and "wherein calculating relevance further comprises weighting the article title(s) and/or product problem context to indicate a greater relevance than any product problem resolution information" (i.e., statistic based on all possible combinations of weights; see page 301, col. 1, the entire paragraph [3.3.2] and Figs. 8 and 9).

As per claim 49, Hamandas discloses "calculating relevance further comprises assigning greater relevance to feature(s) of the metadata that occur in content of the data source with greater frequency as compared to the frequency of occurrence of other metadata features in the content" (In light the specification at [0039], the purposed of calculating relevance is for assigning weight, ranking to determine frequencies. The method of using statistic based on all possible combinations of weights is disclosed by Hamandas page 301, col. 1, the entire paragraph [3.3.2] and Figs. 8 and 9).

As per claim 50, Hamandas discloses "calculating relevance further comprises assigning greater weight to feature(s) of the metadata found in a document of the one or more documents as a function of an age of the document" (i.e., statistic based on all possible combinations of weights; see page 301, col. 1, the entire paragraph [3.3.2] and Figs. 8 and 9).

As per claim 51, in addition to claims 1 and 4, Hamandas further discloses "identifying search queries from the search query log, wherein the search queries have a relatively high frequency of occurrence (FOO) to search the data source" (In light the specification at [0039], the purposed of calculating relevance is for assigning weight, ranking to determine frequencies. The method of using statistic based on all possible combinations of weights is disclosed by Hamandas page 301, col. 1, the entire paragraph [3.3.2] and Figs. 8 and 9);

"determining article(s) selected by an end-user from search query results, the article(s) being from the data source" (i.e., queries all images relevant to each query; see page 300, col. 1, paragraph [3.2], lines 1-3); and

"determining missing end-user selection(s), where a missing end-user selection is an article in the search query results that was not selected" (i.e., user's search; page 298, col. 2, last paragraph, lines 4-7).

As per claim 52, in addition to clam 43, Hamandas further discloses "clustering heterogeneous objects using inter-layer links to determine importance measurements for features of the heterogeneous object to determine importance measurements of features for features of the heterogeneous objects" (In light the specification at [0087], the purposed of clustering heterogeneous object is for using inter-layer links. The method of clustering textual and non-textual nodes linked is disclosed by Hamandas page 296, col. 1, paragraph [2.1] and Fig. 1), "the heterogeneous object comprising a first cluster of similar queries and a second cluster of related documents" (In light the specification at [0068], the purposed of clustering is for identifying similarities queries. The method of classifying similar relevant images (documents) in pages, in which relevance assessment on the images in relation to the categories is disclosed by Hamandas page 300, col. 2, paragraph [3.2.1]), "the similar queries having been identified in the search query log, the similar queries being associated search result(s) comprising the one or more documents" (i.e., collecting queries and the identification of all images relevant to each query; page 300, col. 1, paragraph [3.2), "the related documents being identified in the search result(s) independent of whether individual ones of the related documents were selected by an end-user from the search results" (i.e., retrieving documents with their corresponding nodes and presenting them to user; see page 297, col. 2, paragraph [2.2], lines 16-18).

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sharon McDonald et al., Evaluating a Content Based Image Retrieval System.

CONTACT INFORMATION

2.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEAN B. FLEURANTIN whose telephone number is 571 – 272-4035. The examiner can normally be reached on 7:05 to 4:35.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN E BREENE can be reached on 571 – 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Jean Bolte Fleurantin

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